

236        ^ Faraday's  
              Researches

verted into dynamic force (736): that then the amount of current force produced is an exact equivalent of the original chemical force employed; and that in no case (in the voltaic pile) can any electric current be produced, without the active exertion and consumption of an equal amount of chemical force, ending in a given amount of chemical change.

792. Marianini's paper<sup>1</sup> was to me a great motive for re-examining the subject; but the course I have taken was not so much for the purpose of answering particular objections, as for the procuring evidence, whether relating to controverted points or not, which should be satisfactory to my own mind, open to receive either one theory or the other. This paper, therefore, is not controversial, but contains further facts and proofs of the truth of De la Rive's views. The cases Marianini puts are of extreme interest, and all his objections must, one day, be answered, when numerical results, both as to intensity and quantity of force, are obtained; but they are all debatable, and, to my mind, depend upon variations of quantity which do not affect seriously the general question. Thus, when that philosopher quotes the numerical results obtained by considering two metals with fluids at their opposite extremities which tend to form counter currents, the difference which he puts down to the effect of metallic contact, either made or interrupted, I think accountable for, on the facts partly known respecting

opposed currents; and with  
 me differences quite as  
 great, and  
 greater, have arisen, and are  
 given in former papers (782),  
 when  
 metallic contacts were in  
 the circuit. So at page  
 213 of his  
 memoir, I cannot admit that  $e$   
 should give an effect equal to  
 the  
 difference of  $b$  and  $d$ ; for in  $b$   
 and  $d$  the opposition  
 presented to  
 the excited currents is  
 merely that of a bad  
 conductor, but in  
 the case of  $e$  the opposition  
 arises from the power of an  
 opposed  
 acting source of a current.  
 793. As to the part of his  
 memoir respecting the  
 action of  
 sulphuretted solutions,<sup>2</sup> I  
 hope to be allowed to refer  
 to the  
 investigations made further  
 on. I do not find, as the  
 Italian  
 philosopher, that iron with  
 gold or platina, in solution  
 of the  
 sulphuret of potassa, is  
 positive to them,<sup>3</sup> but, on the  
 contrary,  
 powerfully negative, and for  
 reasons given in the sequel  
 (1037).  
 794. With respect to the  
 discussion of the cause of the  
 spark  
 before contact,<sup>4</sup> Marianini  
 admits the spark, but I give  
 it up

<sup>1</sup> *Memorie della Societd, Itatiancu in*  
*Modena*, 1827, xxi. p. 205.

<sup>a</sup> *Ibid.* p. 217.

<sup>3</sup> *Ibid.* p. 217.

<sup>4</sup> *Ibid.* p. 225.